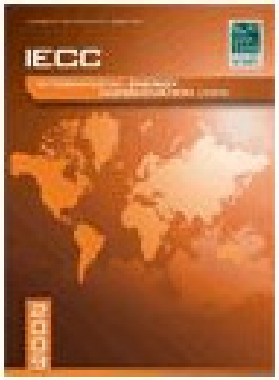
2009 IECC

GA Energy Code is based on the IECC with amendments that adjust the Code:

1. To be based on homes we build in Georgia
2. The way we build in GA
3. Easy to use & enforce

GA DCA Codes web site:
http://www.dca.state.ga.us/development/constructioncodes/programs/codes2.asp



NEW!!

2009 IECC Update Course

The economic stimulus package passed by the U.S. House of representatives includes $3.4 billion in energy assistance grants for states if the International Code Council's 2009 IECC is adopted. This seminar provides information critical to those wishing to adopt and enforce the 2009 IECC. Containing more energy efficiency provisions than ever before, the 2009 IECC is projected to achieve a 15% increase in energy savings in comparison to the 2006 IECC. This seminar focuses on the key changes between the 2006 and 2009 IECC and the new requirements that achieve this increase in efficiency. Both residential and commercial provisions of the code are examined.

GA Amendments to 2009 IECC

- Not a lot of Georgia amendments needed for the 2009 IECC
  - Many of the Georgia Energy Code amendments are now in the IECC – some will be pointed out.
  - DOE will not be doing a GA RESCheck or COMCheck
  - Utilize/Reference the DCA Website for compliance tools.
  - USE RECA for a GA Energy Code handout
- Tasks & Recommendations:
  1. Georgia Definitions-
     1. Keep Air Barrier & Attic knee Wall
     2. Delete Green Roof & R-value
  2. Appendix A, "AIR SEALING KEY POINTS"
  3. Crawl space amendment
  4. Attic Knee Wall R-18
  5. Low-e windows in Climate Zone 4
  6. Pull-down/disappearing stairs amendment
  7. Electric Resistance heat amendment
  8. Metal Building amendments
  9. GA Energy Code compliance certificate at: http://www.dca.state.ga.us/development/constructioncodes/programs/codes2.asp
  9. Review proposed amendments

2009 Proposed amendments

Revise Section to read as follows.

1. **103.1.1 Above code programs**. The code official or other authority having jurisdiction shall be permitted to deem a national, state or local energy efficiency program to exceed the energy efficiency required by this code. Buildings approved in writing by such an energy efficiency program shall be considered in compliance with this code. One and two family dwellings receiving a Home Energy Rating by a Certified Home Energy Rater and receiving a Home Energy Rating System (HERS) index of 100 or less, when using and approved software shall be deemed to comply with this code.

   see: http://www.resnet.us/ and www.energystar.gov for information on HERS .

2. IECC 2009-2 Proposed definitions of space (Phil Brown Proposal)
   - Space
   - Cooled Space
   - Heated Space
   - Indirectly conditioned attic space
   - Unvented attic assemblies
     - Semi-heated space
     - Unconditioned space

1. GA definitions amendments

AIR BARRIER. Any material that blocks air flow between a conditioned space and an unconditioned space, including necessary sealing to block excessive air flow at edges and seams. (Information on proper air sealing may be found in **Appendix A, 'AIR SEALING KEY POINTS'**, on the U.S. Department of Energy's Building America website [www.eere.energy.gov/buildings/building_america], and in the Energy and Environmental Building Association's [EEBA's] Builders Guides [www.eeba.org]. These references include guidance on identifying and sealing air barriers.)

Recommend keeping this definition

GA Amendments to 2009 IECC

Definitions (con't) recommend keeping this definition

ATTIC KNEEWALL. Any vertical or near-vertical wall in the building envelope that has conditioned space on one side and unconditioned attic space on the other side. If the envelope features the insulation installed along the sloped ceiling, the vertical wall is considered an interior wall and thus does not require insulation.

delete Green Roof definition.

~~**GREEN ROOF.** Roof envelope surfaces that are either extensively and/or intensively vegetated, containing from 3 inches to 24 inches (76 mm to 610 mm) or more of growing medium, applied over a multi-layered waterproofing membrane that includes insulation and drainage/moisture retention elements.~~

Delete R-value definition, it is defined in 2009 IECC

GA Amendments to 2009 IECC

- Appendix A, 'AIR SEALING KEY POINTS' Keep this amendment
  - Important to **keep the wording in the Air Barrier Definition** since that reference makes the Appendix part of the GA Energy Code.
- Crawl space insulation amendments (sealed crawl space)
  - **402.2.~~8~~ 9 Crawl space walls.** As an alternative to insulating floors over crawl spaces, crawl space walls shall be permitted to be insulated when the crawl space is not vented to the outside. Crawl space wall insulation shall be permanently fastened to the wall and extend downward from the floor to within 9 inches (229 mm) of the finished interior grade adjacent to the foundation wall. A 3-inch (76 mm) inspection/view strip immediately below the floor joists shall be provided to permit inspections for termites. Exposed earth in unvented crawl space foundations shall be covered with a continuous vapor retarder (minimum 6-mil [0.15 mm]). All joints of the vapor retarder shall overlap by 6 inches (152 mm) and be sealed or taped. The edges of the vapor retarder shall extend at least **9** inches (**228** mm) up the stem wall and shall be attached and sealed to the stem wall.
  - Note: Recommend adopting just as current amendment reads because all three parties initialed this change (Dept Aquiculture, Pest Control Association and the 2008 GA Energy Code Task Force). **Please, do not re-open this can of worms!**

2009 IECC

402.2.9 Crawl space walls. As an alternative to insulating floors over crawl spaces, crawl space walls shall be permitted to be insulated when the crawl space is not vented to the outside. Crawl space wall insulation shall be permanently fastened to the wall and extend downward from the floor to the finished grade level and then vertically and/or horizontally for at least an additional 24 inches (610 mm). Exposed earth in unvented crawl space foundations shall be covered with a continuous Class I vapor retarder. All joints of the vapor retarder shall overlap by 6 inches (153 mm) and be sealed or taped. The edges of the vapor retarder shall extend at least 6 inches (153 mm) up the stem wall and shall be attached to the stem wall.

Recommend deleting 402.2.9 in IECC and adopting the current GA amendment and 9 inches up the stem wall.

GA Amendments to 2009 IECC

- Attic Knee wall R-values (R-18)
  - This requirement & Low-e in CZ 4 trades off the attic pull down/ disappearing stairs amendment.
- Climate Zone 4 Low-e windows
- The Disappearing stairs amendment
  - **402.3.7 Weather-stripped access doors.** Weather-stripped access doors (maximum *U*-0.35), weather-stripped hatches/scuttle hole covers (minimum *R*-19 insulation or maximum *U*-0.05), or weather-stripped disappearing/pull-down stairs (maximum *U*-0.35) shall be calculated as a sub-element with a *U*-factor of *U*-0.05 or insulation *R*-value of *R*-19. Weather-stripping, factory applied or approved by the local building official, shall be deemed to meet the sealing requirements of Section 402.4.1.
    - Consider adding as a footnote to table 402.1.1 "weather-stripped disappearing/pull-down stairs (maximum *U*-0.35) shall be considered as complying with Table 402.1.1".
    - Note the difference between R-30 and U-0.35 is about 100 BTU's per hour or approx $8.50 per year. Applying the GA Attic Knee wall amendments saves this many BTU's (80 sf attic knee wall) or increasing the attic insulation from R-30 to R-30.1 (based on the GA Model Home).

GA Amendments to IECC

- Revise current GA electric heat amendment based on the 2010 IECC amendment

403.1.2 Primary heat source. For new dwelling unit central HVAC systems, or replacement HVAC systems installed in dwelling units that were originally permitted after January 1, 1996, electric-resistance heat shall not be used as the primary heat source. Primary heat source is defined as the heat source for the original dwelling unit system.
Exception: Alterations or additions of 50% or less than the original conditioned floor area.

See current GA amendment below

SECTION 403
SYSTEMS (Mandatory)

*Add new Section 403.1.2 'Primary heat source' to read as follows:

403.1.2 Primary heat source. For new dwelling unit central HVAC systems, or replacement HVAC systems installed in dwelling units that were originally permitted after January 1, 1996, electric-resistance heat shall not be used as the primary heat source. Primary heat source is defined as the heat source for the original dwelling unit system.

Exception: Alterations or additions of 50% or less than the original conditioned floor area.

GA Amendments to 2009 IECC

- The GA Metal Bldg Amendments

Table A-2 (Section A2.3)
Assembly U-Factors for Metal Building Roofs

Insulation System	Rated R-value of Insulation	Total Rated R-value of Insulation	Overall U-factor for Entire Base Roof Assembly	Overall U-Factor for Assembly of base Roof Plus Continuous Insulation (uninterrupted by framing) Rated –value of Continuous Insulation					
				R-5.6	R-11.2	R-16.8	R-22.4	R-28	R-33.6
Standing Seam Roofs with Thermal Blocks									
Single Layer	None	0	1.280	0.162	0.087	0.059	0.045	0.036	0.030
	R-6	6	0.167	0.086	0.058	0.044	0.035	0.029	0.025
	R-10	10	0.097	0.063	0.046	0.037	0.031	0.026	0.023
	R-11	11	0.092	0.061	0.045	0.036	0.030	0.026	0.022
	R-13	13	0.083	0.057	0.043	0.035	0.029	0.025	0.022
	R-16	16	0.072	0.051	0.040	0.033	0.028	0.024	0.021
	R-19	19	0.065	0.048	0.038	0.031	0.026	0.023	0.020
	R-10 + R-10	20	0.063	0.047	0.037	0.031	0.026	0.023	0.020
	R-10 + R-11	21	0.061	0.045	0.036	0.030	0.026	0.023	0.020
	R-11 + R-11	22	0.060	0.045	0.036	0.030	0.026	0.022	0.020
	R-10 + R-13	23	0.058	0.044	0.035	0.029	0.025	0.022	0.020
	R-11 + R-13	24	0.057	0.043	0.035	0.029	0.025	0.022	0.020
	R-13 + R-13	26	0.055	0.042	0.034	0.029	0.025	0.022	0.019
	R-10 + R-19	29	0.052	0.040	0.033	0.028	0.024	0.021	0.019
	R-11 + R-19	30	0.051	0.040	0.032	0.027	0.024	0.021	0.019
	R-13 + R-19	32	0.049	0.038	0.032	0.027	0.023	0.021	0.019
	R-16 + R-19	35	0.047	0.037	0.031	0.026	0.023	0.020	0.018
	R-19 +R-19	38	0.046	0.037	0.030	0.026	0.023	0.020	0.018
(Multiple R-values are listed in order from inside to outside)									
Screw Down Roofs									
	R-10	10	0.153	0.082	0.056	0.043	0.035	0.029	0.025
	R-11	11	0.139	0.078	0.054	0.042	0.034	0.028	0.025
	R-13	13	0.130	0.075	0.053	0.041	0.033	0.028	0.024
	R-19	19	0.085	0.058	0.044	0.350	0.029	0.025	0.022
Filled Cavity with Thermal Blocks									
	R-19 + R-10	29	0.041	0.033	0.028	0.024	0.021	0.0198	0.017
(Multiple R-values are listed in order from inside to outside)									
Based on Purlins 5.0' OC, for other purlin spacing use Table 700 to calculate overall U-factor									

GA Amendments to 2009 IECC

FIGURE 6-2
METAL ROOF *U*-FACTORS WITH *R*-19 FIBERGLASS INSULATION INSTALLED OVER THE PURLINS[1]

THROUGH-FASTENED METAL ROOF		STANDING SEAM METAL ROOF[2]	
PURLIN SPACING[3]	*U*-FACTOR	PURLIN SPACING[3]	*U*-FACTOR
2.0 feet	0.147	2.0 feet	0.112
2.5 feet	0.126	2.5 feet	0.096
3.0 feet	0.113	3.0 feet	0.086
3.5 feet	0.103	3.5 feet	0.079
4.0 feet	0.095	4.0 feet	0.073
4.5 feet	0.089	4.5 feet	0.068
5.0 feet	0.085	5.0 feet	0.065

1. Through-fastened metal roof values are based on ORNL/MBMA November 2004 User Agreement Report, "Tests of Through-Fastened Metal Roof Assemblies". Standing seam metal roof values are based on ASHRAE/IESNA Standard 90.1 for 5-foot purlin spacing and conservatively estimated for other spacing using the same relationship as through-fastened test data.
2. 1-inch by 3-inch (25 mm by 76 mm) thermal block is required between metal roof and purlins.
3. For roofs with mixed spacing, calculate the average roof *U*-factor as shown below.
   Example: Total roof is 8000 ft^2 (743.22 m^2) standing seam metal roof. 1600 ft^2 (148.64 m^2)—20% of it—is on purlins spaced at $2^1/_2$ feet (762 mm). 6400 ft^2 (594.58 m^2)—80% of it—is on purlins spaced at 5 feet (1524 mm). Average Roof *U*-Factor = 0.20 x 0.096 + 0.80 x 0.065 = 0.071.

(Effective January 1, 2008)

GA Amendments to 2009 IECC

Table 402.7.1 was added to the GA amendments to prevent an assembly from being R-0. The **simple** way to do this is add a footnote to Table 402.1.3 that specifies "The Ceiling and Basement Wall U-factors are mandatory maximum values and shall not be traded-off using UA 402.1.4 Total UA alternative or RESCheck".

Note: This would still allow a Section 405 Performance trade-off using REMRATE, Energy Gauge or other approved software programs

Delete entire Table 402.7.1 and add footnote to Table 402.1.3

TABLE 402.7.1
SUMMARY OF MINIMUM INSULATION *R*-VALUES AND MAXIMUM *U*-FACTORS FOR ENVELOPE COMPONENTS

ELEMENT[1]	MODE	MINIMUM *R*-VALUE OR MAXIMUM *U*-FACTOR
Walls Stud	Heating or Cooling	*R*-13
Walls Masonry/CMU[2]	Heating or Cooling	*R*-5
Attic Kneewalls[3]	Heating or Cooling	*R*-18
Roof/Ceiling	Heating or Cooling	*R*-19
Floor Over Unheated Spaces	Heating or Cooling	*R*-13
Windows[4]	Heating or Cooling	*U*-0.65 with Maximum 0.40 SHGC

1. Weather-stripped access doors (maximum *U*-0.35), weather-stripped hatches/scuttle hole covers (minimum *R*-19 insulation or maximum *U*-0.05), or weather-stripped disappearing/pull-down stairs (maximum *U*-0.35) shall be deemed to meet the minimum insulation *R*-values of any element.
2. Any mass wall above or below grade.
   Exception: Climate Zone 2.
3. See definition of 'ATTIC KNEEWALL' in these Georgia State Supplements and Amendments.
4. Maximum window *U*-factor shall be 0.65 and maximum SHGC shall be 0.40.

2009 IECC

- Major changes to 2009 IECC from 2006 IECC
  - Residential major changes are:
    1. Table 402.1.1 SHGC - 0.30 and CZ 4 Fenestration U-0.35
    2. Test for building envelope tightness (402.4.2.1) Blower door test
    3. Duct tightness (403.2.2 Mandatory) duct blaster
    4. Note: now references M1401.3 (HVAC sizing Mandatory 403.6) GA has required this since 2005.
  - Commercial
    1. Based on ASHRAE 90.1-2007 instead of ASHRAE 90.1-2004
    2. Adopt as published with GA metal building amendments

2009 IECC

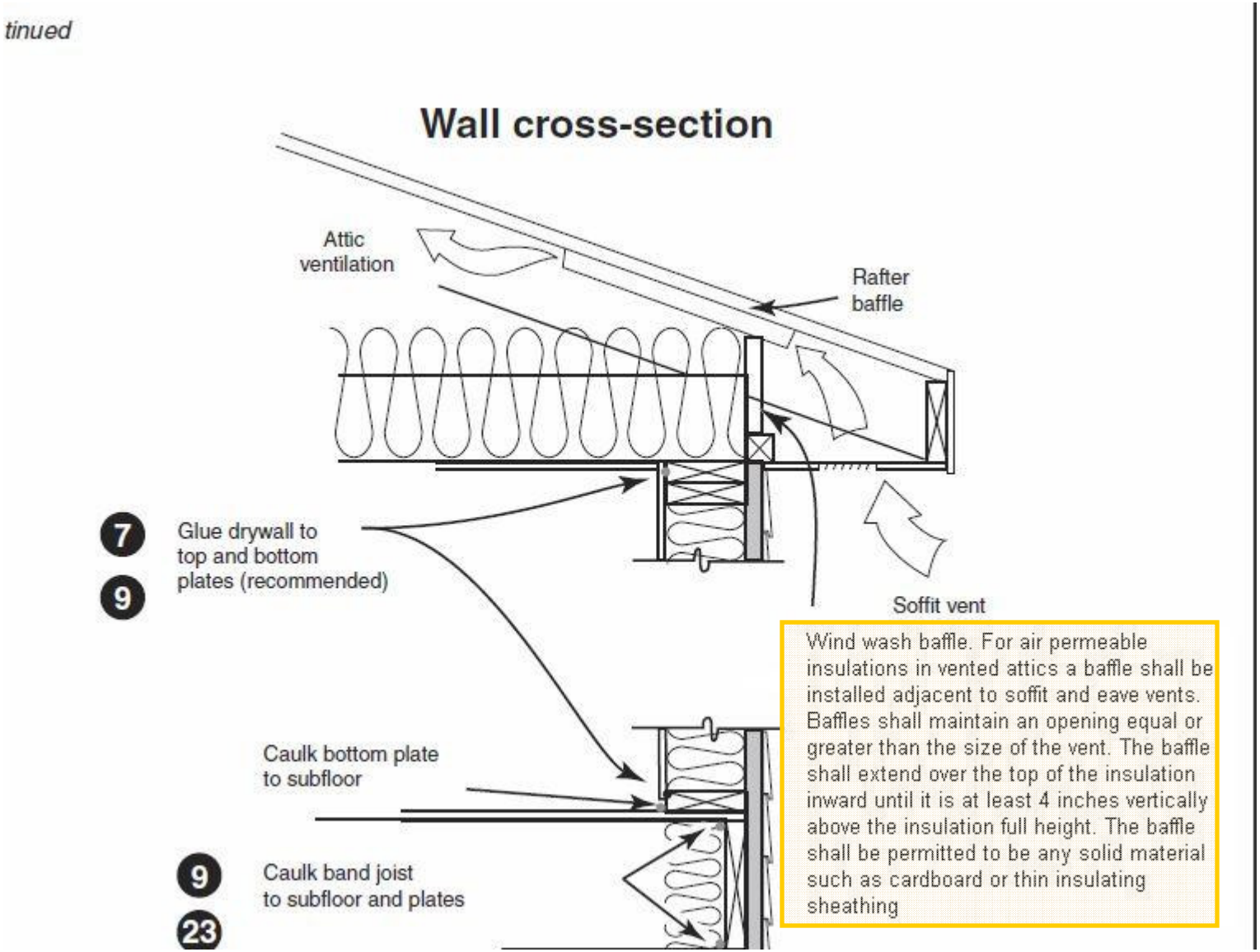
This was a Georgia Amendment and now is in the 2009 IECC.

303.1.4 Insulation product rating. The thermal resistance (*R*-value) of insulation shall be determined in accordance with the U.S. Federal Trade Commission *R*-value rule (CFR Title 16, Part 460, May 31, 2005) in units of h × ft^2 × °F/Btu at a mean temperature of 75°F (24°C).

This is an amendment approved at 1st hearing in Baltimore and covers what we say in the current page 3, Air sealing key points GA amendments:
402.2.3 Wind wash baffle. For air permeable insulations in vented attics a baffle shall be installed adjacent to soffit and eave vents. Baffles shall maintain an opening equal or greater than the size of the vent. The baffle shall extend over the top of the insulation inward until it is at least 4 inches vertically above the insulation full height. The baffle shall be permitted to be any solid material such as cardboard or thin insulating sheathing
May want to put this language on the Air sealing key points

Amend Air sealing key points for wind wash

tinued



Amend Table 402.1.1 CZ 4 0.30 SHGC & attic knee wall R-18

TABLE 402.1.1
INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT[a]

CLIMATE ZONE	FENESTRATION *U*-FACTOR[b]	SKYLIGHT[b] *U*-FACTOR	GLAZED FENESTRATION SHGC[b, e]	CEILING *R*-VALUE	WOOD FRAME WALL *R*-VALUE	MASS WALL *R*-VALUE[i]	FLOOR *R*-VALUE	BASEMENT[c] WALL *R*-VALUE	SLAB[d] *R*-VALUE & DEPTH	CRAWL SPACE[c] WALL *R*-VALUE
1	1.2	0.75	0.30	30	13	3/4	13	0	0	0
2	0.65[j]	0.75	0.30	30	13	4/6	13	0	0	0
3	0.50[j]	0.65	0.30	30	13	5/8	19	5/13[f]	0	5/13
4 except Marine	0.35	0.60	0.30	38	13	5/10	19	10/13	10, 2 ft	10/13
5 and Marine 4	0.35	0.60	NR	38	20 or 13+5[h]	13/17	30[g]	10/13	10, 2 ft	10/13
6	0.35	0.60	NR	49	20 or 13+5[h]	15/19	30[g]	15/19	10, 4 ft	10/13
7 and 8	0.35	0.60	NR	49	21	19/21	38[g]	15/19	10, 4 ft	10/13

For SI: 1 foot = 304.8 mm.

a. *R*-values are minimums. *U*-factors and SHGC are maximums. R-19 batts compressed into a nominal 2 × 6 framing cavity such that the *R*-value is reduced by R-1 or more shall be marked with the compressed batt *R*-value in addition to the full thickness *R*-value.

b. The fenestration *U*-factor column excludes skylights. The SHGC column applies to all glazed fenestration.

c. "15/19" means R-15 continuous insulated sheathing on the interior or exterior of the home or R-19 cavity insulation at the interior of the basement wall. "15/19" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulated sheathing on the interior or exterior of the home. "10/13" means R-10 continuous insulated sheathing on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.

d. R-5 shall be added to the required slab edge *R*-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Zones 1 through 3 for heated slabs.

e. There are no SHGC requirements in the Marine Zone.

f. Basement wall insulation is not required in warm-humid locations as defined by Figure 301.1 and Table 301.1.

g. Or insulation sufficient to fill the framing cavity, R-19 minimum.

h. "13+5" means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 25 percent or less of the exterior, insulating sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25 percent of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.

i. The second *R*-value applies when more than half the insulation is on the interior of the mass wall.

j. For impact rated fenestration complying with Section R301.2.1.2 of the *International Residential Code* or Section 1608.1.2 of the *International Building Code*, the maximum *U*-factor shall be 0.75 in Zone 2 and 0.65 in Zone 3.

Attic Knee walls shall be minimum R-18 with an air barrier on attic side of any permeable insulation

Revise Table 402.1.3 with footnote

TABLE 402.1.3
EQUIVALENT *U*-FACTORS[a]

CLIMATE ZONE	FENESTRATION *U*-FACTOR	SKYLIGHT *U*-FACTOR	CEILING *U*-FACTOR	FRAME WALL *U*-FACTOR	MASS WALL *U*-FACTOR[b]	FLOOR *U*-FACTOR	BASEMENT WALL *U*-FACTOR[d]	CRAWL SPACE WALL *U*-FACTOR[c]
1	1.20	0.75	0.035	0.082	0.197	0.064	0.360	0.477
2	0.65	0.75	0.035	0.082	0.165	0.064	0.360	0.477
3	0.50	0.65	0.035	0.082	0.141	0.047	0.091[c]	0.136
4 except Marine	0.35	0.60	0.030	0.082	0.141	0.047	0.059	0.065
5 and Marine 4	0.35	0.60	0.030	0.057	0.082	0.033	0.059	0.065
6	0.35	0.60	0.026	0.057	0.060	0.033	0.050	0.065
7 and 8	0.35	0.60	0.026	0.057	0.057	0.028	0.050	0.065

a. Nonfenestration *U*-factors shall be obtained from measurement, calculation or an approved source.
b. When more than half the insulation is on the interior, the mass wall *U*-factors shall be a maximum of 0.17 in Zone 1, 0.14 in Zone 2, 0.12 in Zone 3, 0.10 in Zone 4 except Marine, and the same as the frame wall *U*-factor in Marine Zone 4 and Zones 5 through 8.
c. Basement wall *U*-factor of 0.360 in warm-humid locations as defined by Figure 301.1 and Table 301.2.
d. Foundation *U*-factor requirements shown in Table 402.1.3 include wall construction and interior air films but exclude soil conductivity and exterior air films. *U*-factors for determining code compliance in accordance with Section 402.1.4 (total UA alternative) of Section 405 (Simulated Performance Alternative) shall be modified to include soil conductivity and exterior air films.

Add following footnote:

The Ceiling and Basement Wall U-factors are mandatory maximum values and shall not be traded-off using UA 402.1.4 Total UA alternative or RESCheck".

2009 IECC

402.2.2 Ceilings without attic spaces. Where Section 402.1.1 would require insulation levels above R-30 and the design of the roof/ceiling assembly does not allow sufficient space for the required insulation, the minimum required insulation for such roof/ceiling assemblies shall be R-30. This reduction of insulation from the requirements of Section 402.1.1 shall be limited to 500 square feet (46 m²) or 20 percent of the total insulated ceiling area, whichever is less. This reduction shall not apply to the *U*-factor alternative approach in Section 402.1.3 and the total UA alternative in Section 402.1.4.

If there is a footnote added to Table 402.1.3 setting ceiling U-factor as maximum U-0.035 then strike ~~and the total UA alternative in Section 402.1.4.~~

GA Amendment Appendix E

SAMPLE CERTIFICATE

Georgia Energy Code Compliance Certificate*

Builder_____ Contact Information_____
Insulation Co._____ Contact Information_____
Heating & Air Co._____ Contact Information_____

Envelope Information

Flat Ceiling/Roof *R*-Value_____ Sloped/Vault Ceiling *R*-Value_____
Exterior Wall *R*-Value_____ (Note: *R*-13 + *R*-3 is *R*-13 Cavity and *R*-3 Sheathing)
Attic Kneewall Cavity *R*-Value_____ Attic Kneewall Sheathing *R*-Value_____
Basement Stud Wall *R*-Value_____ Basement Continuous *R*-Value_____
Crawlspace Stud Wall *R*-Value_____ Crawlspace Continuous *R*-Value_____
Foundation Slab Edge *R*-Value_____ Above Grade Mass Wall *R*-Value_____
Cantilevered Floor *R*-Value_____ Floor Over Unconditioned Space *R*-Value_____
Other Insulation *R*-Values_____
Window *U*-Factor_____ Window SHGC_____
Skylight *U*-Factor_____ Skylight SHGC_____
Glazed Door *U*-Factor_____ Opaque Doors (< 50% glazed) *U*-Factor_____

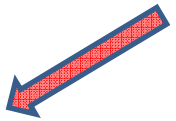
Mechanical Summary

Water Heater Installed By_____
Gas_____ Energy Factor_____ Electric_____ Energy Factor_____
Other (Explain)_____ Efficiency_____
Number of Heating & Cooling Systems: _____(# of Air Handlers)
Heating Gas_____ AFUE_____ Air Source Heat Pump_____ HSPF_____
Heat (Other)_____ Efficiency_____
Cooling System Type_____ (Direct Expansion, Heat Pump, Geothermal, Etc.) SEER____
Total House Heating Load_____ (Btu/h, Based on ACCA Manual J___or____)
Total House Cooling Load_____ (Btu/h, Based on ACCA Manual J___or____)
Cooling Sensible Load_____ (Btu/h) Cooling Latent Load_____(Btu/h)
Total Air Handler CFM _____ (Based on Design/Calculations)
Heating & Cooling Load Calculations Performed by (Name)_____

*Certificate shall be readily accessible and posted on the electrical distribution panel or air handler. List primary type when there is more than one value for each component (i.e. certificate shall list the value covering the largest area). The certificate shall be completed by the builder or registered design professional.

see: http://www.dca.state.ga.us/development/constructioncodes/programs/codes2.asp

Delete current Appendix D Checklist since this Table 402.4.2 Air Barrier Insulation Inspection & Georgia Energy Code Compliance certificate covers all the important items in the checklist



Add DCA web site to Appendix E

2009 IECC

TABLE 402.4.2
AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA

COMPONENT	CRITERIA
Air barrier and thermal barrier	Exterior thermal envelope insulation for framed walls is installed in substantial contact and continuous alignment with building envelope air barrier. Breaks or joints in the air barrier are filled or repaired. Air-permeable insulation is not used as a sealing material. Air-permeable insulation is inside of an air barrier.
Ceiling/attic	Air barrier in any dropped ceiling/soffit is substantially aligned with insulation and any gaps are sealed. Attic access (except unvented attic), knee wall door, or drop down stair is sealed.
Walls	Corners and headers are insulated. Junction of foundation and sill plate is sealed.
Windows and doors	Space between window/door jambs and framing is sealed.
Rim joists	Rim joists are insulated and include an air barrier.
Floors (including above-garage and cantilevered floors)	Insulation is installed to maintain permanent contact with underside of subfloor decking. Air barrier is installed at any exposed edge of insulation.
Crawl space walls	Insulation is permanently attached to walls. Exposed earth in unvented crawl spaces is covered with Class I vapor retarder with overlapping joints taped.
Shafts, penetrations	Duct shafts, utility penetrations, knee walls and flue shafts opening to exterior or unconditioned space are sealed.
Narrow cavities	Batts in narrow cavities are cut to fit, or narrow cavities are filled by sprayed/blown insulation.
Garage separation	Air sealing is provided between the garage and conditioned spaces.
Recessed lighting	Recessed light fixtures are air tight, IC rated, and sealed to drywall. Exception—fixtures in conditioned space.
Plumbing and wiring	Insulation is placed between outside and pipes. Batt insulation is cut to fit around wiring and plumbing, or sprayed/blown insulation extends behind piping and wiring.
Shower/tub on exterior wall	Showers and tubs on exterior walls have insulation and an air barrier separating them from the exterior wall.
Electrical/phone box on exterior walls	Air barrier extends behind boxes or air sealed-type boxes are installed.
Common wall	Air barrier is installed in common wall between dwelling units.
HVAC register boots	HVAC register boots that penetrate building envelope are sealed to subfloor or drywall.
Fireplace	Fireplace walls include an air barrier.

2009 IECC with 2010 amendments

America's model energy efficiency code for new home construction (International Energy Conservation Code, or IECC) would be close to meeting the 30% target included in legislation that has cleared both the full House of Representatives and the Senate Energy & Natural Resources Committee if action taken at the International Code Council (ICC) Codes Forum hearings in Baltimore is upheld by the ICC Final Action Hearings in 2010. The IECC is the model code recognized in federal law, green building standards, and nearly all states.

Georgia Energy Code

- It has been an honor and a privilege to have served on the Georgia Energy Code Task Forces and assist GA DCA Code staff for the last 15 years.
- It is my firm belief that everyone can be replaced and any good professional should always be training a replacement. Steve Skalko is back on the Task Force and brings over 20 years of experience dealing with national and state codes. Steve was a voting committee member of ASHRAE 90.1-2007. Ridge Davis has field and classroom experience and is attending the national code hearings. Ridge as outstanding knowledge of RESCheck.
- I will always be available to offer my professional opinion. I've kept my cell phone number as a Atlanta numbers so Greater Atlanta area Code Enforcement Officers and interested parties can call me without it being long distance.
- **Thanks for the wonderful memories**!